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ABSTRACT

Academic productivity is a generalized notion of measurement in terms of an output/input model. For this writer, this concept of academic productivity is a type of institutional-level theory concerned with monitoring one aspect of the university. Be it in financial indicators, the measurement of instructional effort, the calculation of FTE faculty, or finding out the character of the faculty extra-instructional services, the notion of academic productivity has generic applicability. This generic idea of academic productivity and several specific examples are described in this paper. (Author/PG)

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ACADEMIC PRODUCTIVITY:
INSTITUTIONAL-LEVEL THEORY

by

James Steve Counelis

As in the case of the individual,
not all information which is
available to the race at one time
is accessible without special effort.

--Norbert Wiener, Cybernetics

THE UNIVERSITY OF SAN FRANCISCO

Office of Institutional Studies

ACADEMIC PRODUCTIVITY: INSTITUTIONAL LEVEL THEORY

by

James Steve Counelis

The Association for Institutional Research Forum
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PREFACE

The spur for this work on academic productivity has been the practical problems of administering a university in tough times of rapid change. Stop-gap measures are costly in monies and human welfare. Rules of thumb need to be changed daily.

Academic productivity seemed to be a fairly descriptive term for a tangled skein of problems in university administration. And after slashes at this Gordian knot failed, the unwinding of the skein became necessary. This paper is part of that unwinding process. The generic concept of academic productivity provided here is comprehensive but spare. The single strand that composes the tangled skein is information. The untangled configuration of this strand of information in an ordered skein is an institutional-level theory of academic productivity. The "ordered" information strand runs through finance and budgeting, curriculum and professional service to scholarship and society. Hopefully, this experience at the University of San Francisco is useful to others.

I am indebted to many who through conversations they have shared their expertise, insights and feelings with great generosity. And of those, I number Dr. Anthony E. Seidl, Provost, who has encouraged me in these endeavors. To Mr. William J. Dillon, generous colleague in the Office of Institutional Studies, I express my great admiration and thanks. He provided the "cleaned" datal basis for this paper and others, as well as commenting excellently on my results. To Mr. Paul Casias, student programmer, who provided the computer support required here with diligence, high ability and personal charm I write thank you. And to Mrs. Fran Nishiguchi, secretary, I write a word of thanks for excellence in typing this paper and for the generosity of spirit with which she did it. Of course, all errors are mine as they should be.

JSC

Office of Institutional Studies
The University of San Francisco
May 1, 1974

ACADEMIC PRODUCTIVITY:
INSTITUTIONAL LEVEL THEORY

by

James Steve Counelis[+]

Problem:

The public forum on American higher education is flooded with the argot of the businessman, the efficiency expert and the systems analyst. Like the 1920's arena of American public school education, strident voices are rising with panaceas that came from the business/industrial model. Much over reaction is setting in, goaded by financial stress. Indeed, presidents of some of our most prestigious universities are exchanging the word "education" for the more limited term "training."

As is the case for American business, industry, and labor today, so goes the one financial rub for American higher education, viz., productivity. Academic productivity is a new term, having a technocratic ring. But it is a good one for our purposes. There is no doubt that all would agree that academic productivity needs to be at a high rate, excellent in quality, diverse in character and

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reasonable in cost. Much "bad-mouthed" discussion, especially among faculty groups, is being heard on the topic of academic productivity, particularly in relation to faculty accountability.

Academic productivity has not been adequately conceptualized in holistic university terms. And more importantly, the following question must be asked: When institutions do not have a sophisticated management information system (MIS), how can they effectively manage their problems related to academic productivity? Though an MIS is not necessary, conceptualized data are required. Current year operations and multi-year university planning require a rational means to guide and monitor the institution's academic productivity toward effective educational results. The University of San Francisco will serve as Hegel's "concrete-general" to explain a functional concept of academic productivity and its planning implications.

Concept and Measures:

The University is conceived to be a whole integrated entity, one that is best described as an open system (Counelis, 1971). And for this system to operate effectively, cybernetic reality-testing must obtain. Cybernetic reality-testing is exemplified in this pursuit of conceptualizing and empiricizing academic productivity in a particular university for university planning, budgeting and evaluation.

Academic productivity (P) is the result (R) of expended effort/resources (E) upon specific materials (M). Hence, $R \cap M \propto E \cap M$, that is, the academic product (R) varies on the effort/resources

(E) used, which effort/resources (E) is expended in given ways upon materials (M). This academic productivity model fits instruction, research and public service. Note the following examples:

(1) Instruction: Results (R) could be a competent student in calculus, the effort/resources (E) used could be a professor teaching calculus in a class of 40 students, and the material (M) could be a freshman student.

(2) Research: Results (R) could be a Freudian analysis of Dylan Thomas' poetry, the effort/resources (E) could be Professor X on sabbatical leave, and the materials (M) could be the full corpus of Dylan Thomas' papers.

(3) Public Service: Results (R) could be Professor Y's chairing a civic committee on environmental control, the effort/resources (E) would be the university's release time for this civic role, and materials (M) could be the area of civic responsibility carried by the committee chaired by Professor Y.

Simplifying, academic productivity (P) is a function of how the results (R) are obtained through the effort/resources (E) expended, given particular materials (M). This is the conceptual basis for an output/input model, wherein the ratio $P = R/E$ is obtained, given particular materials (M) found in the results (R), (Greenberg, 1973).

All material and social output/input systems are inefficient to a certain degree. Output never equals input in any quantitative sense. Therefore, $P = R/E < 1$, that is academic productivity (P) is always less than 1, or less than perfect. Having defined academic productivity by rigorous proposition and operational terms, permit the elaboration of the idea in university areas of finance, instruction, research and public service.

Financial Indicators:

To evaluate our university audits systematically in the

absence of computerized records and technical literature in the field, the need arose for "benchmarks" or "indicators" peculiar to the university as a not-for-profit educational enterprise (Henke, 1966). In December 1973, the Office of Institutional Studies completed a study that ennumerated a number of financial indicators, extrapolating them for the FY 1969-1969 to FY 1972-1973 audits (Counelis and Rizzo, 1972). Comparability of the charts of accounts among the several audits was achieved by reclassifying all areas in accord with those categories developed at Boulder's National Center for Higher Education Management Systems (Goddard, Martin and Romney, 1973) and Scheps and Davidson's Accounting for College and Universities for those aspects of private university management not covered by the NCHEMS work (Scheps and Davidson, 1970). Though it is true that a five year time series of comparable financial categories gives important trend insights, the need for some limited output/input measures is significant. Chart No. 1 illustrates a few output/input measures of interest and significance, particularly the ratio of income and expenditures to FTE students and the difference between these two figures. Through such information gleaned from manual records on a systematic basis, the administrative handles to managing the university enterprise are developed.

[Insert Chart No. 1 here]

Instructional Effort:

Faculty workloads and the efficiency of the university enter-

prise have been tough nuts. And because of economic necessities, the whole issue of faculty instruction is coming under review. Over the last two years, the Office of Institutional Studies has attempted to get handles to this problem. There is no adequate conceptualized treatment of this matter though Goodwin discussed the University of Connecticut pattern and the California State Colleges and Universities have complicated staffing formulae based upon course classifications (Goodwin, 1970). None of these approaches suited our needs at the University of San Francisco.

Taking a commonsense approach, the registration processes provided the following six variables that are related to the question of instructional effort. For each instructional unit, the following frequency categories were collected: (1) the number of faculty; (2) the number courses and sections; (3) the number of students; (4) the number of course-units taught as distinguished from SCH generated in those courses; (5) the number of faculty contact hours per week; (6) the number of students in contact with faculty per week. These data individually can be construed as measures of instructional effort, given the qualified context in which these measures are construed. Chart No. 2 provides Fall 1973 data for these six categories by college and school, at the department level of aggregation.

[Insert Chart No. 2 here]

But such gross frequencies per instructional unit even in a time series matrix, do not serve as critical indicators for management purposes. Chart No. 3 provides a series of instructional effort

measures based upon the output/input model of academic productivity. There are ten such instructional effort measures in Chart No. 3: (1) the number of courses/faculty; (2) the number of students/faculty; (3) the number of units taught/faculty; (4) the number of faculty contact hours per week/faculty; (5) the number of students instructed per week/faculty; (6) the number of students/course (class size); (7) the number of units/courses; (8) the number of faculty contact hours per course; (9) the number of students taught per week/course; (10) the number of student taught per week/the number of faculty contact hours per week. Depending upon the educational/administrative problem being solved, one of these output/input ratios would be appropriate.

Of particular interest as to the issue of getting a good measure of instructional effort in the context of organized course structures, I believe the last ratio is of particular use heuristically and administratively. What this ratio of the number of students serviced instructionally per week to the number of faculty instructional contact hours per week is the average number of students serviced in terms of a single faculty contact hour in instruction. Thus, lectures, discussions, laboratories, field work, seminars, athletics and all types of non-standard instructional formats can be given the common base of faculty contact hours per week. In comparing departments, schools and colleges, the differentiating patterns of instruction can be noted as well as those elements with common patterns with particular empirical emphasis. The planning of curriculum and the allocation of faculty to that curriculum is given empirical

foundation, to say nothing of the post hoc evaluation merit of these measures.

[Insert Chart No. 3 here]

FTE Faculty:

The definition and empiricization of the FTE faculty concept is very difficult. Many rules of thumb (generally called "equivalencies") are used that are not well based upon the empirical facts. Most of these "equivalencies" tend to be "political" decisions rather than rational decisions built upon a concept that is rigorous and throughgoing, one that takes into consideration all types of instructional formats, be these typical and atypical. In wrestling with this issue at the University of San Francisco, the following FTE concept is presented here for broad discussion (Counelis, 1974).

For educational and budget planning, some estimate of the number of faculty is required. At the University of San Francisco, the standard faculty contract is for 12 SCH/semester of instruction or some agreed upon equivalent. This 24 SCH faculty contract does not address itself to issue of academic productivity in the instructional sense, for the absurd end of that productivity scale could indicate the instruction of courses that generate 24 SCH of student instruction for the year. For purposes of a statistical standard at which a FTE faculty could be defined, 600 SCH/academic year was

defined and calculated as follows: (1) 4 courses @ 3 SCH/course with an average class size of 25 students = 300 SCH/semester; (2) 300 SCH x 2 semesters = 600 SCH/academic year. However, this 600 SCH definition of a FTE faculty person does not take into consideration the peculiarities of the Carnegie unit. Hence, all atypical formats e.g., laboratories, field work, clinics, athletics and others, are not equitable because Carnegie unit values for courses do not equate to contact hours. Hence, the "political equivalency" formulae are introduced.

The suggestion is made here to provide some biasing equivalency weight that would reflect at the least the contact hour instructional effort of faculty for all courses of record. Chart No. 4 provides Fall 1973 data through which the U/H ratio is used to bias the standard of 600 SCH for one FTE faculty. The U/H ratio is generated by the number of SCH taught courses (Carnegie Units) divided by the number of faculty contact/week for those taught courses. Hence, the straight lecture/discussion formated courses would remain 600 SCH because the course units equal the number of faculty contact hours/week, such as is the case for English and history. However, the number of contact hours in the laboratory sciences or internship programs in education and nursing are higher in absolute numbers than the course credit for the course. The U/H ratio proportionally biases the standard of 600 SCH in relationship to the number of faculty contact hours which exceed the number of Carnegie units credited for a course. See nursing, education, one of the sciences, and even some of the Arts departments for specific dramatic examples in Chart No. 4.

[Insert Chart No. 4 here]

Chart No. 4 is related to Chart No. 5 in that the variable FTE faculty that characterizes the instructional pattern of a given department is used to estimate the number of FTE faculty required to service the FY 1974 - 1975 curriculum of some 148,560 SCH. A comparison is made in the last three columns with the applied standard of 600 SCH across the board. Hopefully, the notion of a departmentally variable FTE faculty standard, reflecting the instructional pattern inherent in the department's curriculum, will be used. It is recalculable each year and provides for a year-to-year equivalency without politics and hard feelings.

[Insert Chart No. 5 here]

Academic Productivity Beyond the Classroom:

In Fall 1973, a computerized faculty survey was made to determine the extent and nature of academic productivity outside of classroom-related instruction. This survey had certain categories used for informational cross check. A 52.6% return was obtained. The sexual distribution of th e respondees was almost precisely that of the faculty population; and the professorial rank distribution for the first four ranks was slightly under-represented in the assistant professor rank and over-represented of the instructor rank.

The most important aspect of this questionnaire was the individual listing and categorization of scholarship and service

activities. The eleven categories, given below, are deliberately wide and comprehensive as a set. The more restricted publish/perish categories of publication and papers would not do. The categories of scholarship and service were:

A. Published scholarship: pure, applied, action research (books, journal papers, patents);

B. Papers given at professional/learned society meetings: pure, applied, action research;

C. Creative works: published in written form, displayed or performed;

D. Performance: theatre, music, ballet, sports;

E. Other scholarly publications: extended critical bibliographies, book reviews, audio-visual materials, instructional materials;

F. Lay-oriented publications;

G. Lay-oriented public appearances and training group;

H. Service to government, church and civic groups;

I. Service to professional/learned societies;

J. University-connected service: committees, administrative roles, etc.;

K. Consultantships: gratis or contractual.

This list was circulated to several knowledgeable faculty and administrators prior to use. Even at that one item was inadvertently left out, which item was, attendance at meetings of professional/learned societies.

Chart No. 6 presents the distribution of 1106 scholarship/service activities given by faculty. Using the alphabetic codes given in the text above, the quantitative order of the highest four

of these eleven categories is: (1) university-connected service (24%); (2) service to government, church and civic groups (15.6%); (3) service to professional/learned societies (14.4%); (4) published scholarship (12.7%). And if one added the A, B, E, and I categories, the total of 449 purely academic citations occurs that is approximately 41%. Recognizing that it violates the canons of conventional research design, it is worthy to describe statistically that this frequency distribution of reported scholarship/service activities is significant at the .01 level (df = 40). This means that this distribution could only occur randomly once in a hundred times.

Chart No. 6 maps out for the University of San Francisco the scope of her faculty's extra-instructional productivity. This understanding of academic productivity needs more study and systematization into professional guild theory. If this survey is representative of the faculty's professional activity, this somewhat equal distribution of these citations among the three upper professorial ranks reflects well upon the faculty.

In a qualitative sense, these results reflect the university's institutional press and priorities for faculty effort. Indeed, the current criteria of the rank and tenure committee and the university's practice maybe somewhat askew. And should the university wish to alter its institutional press and priorities, a baseline was thus created. A significant addendum to accountability is possible here in the light of these results. Certainly, the university trustees, administration, foundations and governmental funding units, as well as accrediting associations can most adequately be shown a full viable display of

faculty productivity in the extra-instructional areas. Conceptually and pragmatically, the tool is here for such accountability demonstration by the faculty that is so much under efficiency pressures of our day.

[Insert Chart No. 6 here]

Conclusion:

Academic productivity is a generalized notion. Empirically, it is a measurement in terms of an output/input model. For this writer, this concept of academic productivity is a type of institutional-level theory concerned with monitoring one aspect of the university. Be it in financial indicators, the measurement of instructional effort, the calculation of FTE faculty, or finding out the character of the faculty extra-instructional services, the notion of academic productivity has generic applicability. Hopefully, this generic idea of academic productivity and the several specific examples described in this paper will be useful to others. Also, here is particular importance attached to the fact that a sophisticated computerized MIS is not in the arsenal of the University of San Francisco at this time. Manual records are good sources of data. What is required is the conceptualized application of the data in the planning and management of the University. That is the function of theory, namely, to conceptualize data for use. I stand with Kurt Lewin on this point.

CHART NO. 1: THE UNIVERSITY OF SAN FRANCISCO, SELECTED FINANCIAL INDICATORS, FY 1968-1969 TO FY 1972-1973

SELECTED FINANCIAL INDICATORS	FY 1968-1969	FY 1969-1970	FY 1970-1971	FY 1971-1972	FY 1972-1973
A. FTE Students	5,006	5,119	5,087	5,026	5,250
B. Income/FTE Student	2,027	2,073	2,424	2,610	2,689
C. Expense/FTE Student	2,088	2,367	2,654	2,717	2,805
D. Net Income (Expense)/FTE Student	($61)	($294)	($230)	($107)	($116)
E. Percent of Program Expenditures to Total Expenditures					
Primary:					
Instruction	38.9%	39.9%	43.5%	42.0%	42.9%
Research	13.0%	12.4%	11.6%	10.2%	8.7%
Sub Total	51.9%	52.3%	55.1%	52.2%	51.6%
Support:					
Academic	7.3%	8.9%	9.7%	9.1%	8.3%
Student Services	8.0%	6.3%	2.4%	5.1%	4.5%
Institutional Support	12.7%	14.6%	15.6%	17.4%	17.4%
Independent Operations	20.1%	17.9%	17.2%	16.2%	18.2%
Sub Total	48.1%	47.7%	44.9%	47.8%	48.4%
Total	100%	100%	100%	100%	100%
F. Percent Expenditure of Educational Administration to Instruction	5.7%	9.3%	7.9%	7.8%	7.2%

CHART NO. 2: THE UNIVERSITY OF SAN FRANCISCO BASIC INSTRUCTIONAL EFFORT DATA, UNDERGRADUATE, GRADUATE AND PROFESSIONAL, FALL 1973

COLLEGE/SCHOOL/DEPARTMENT	FACULTY (N)	COURSES (N)	STUDENTS (N)	COURSE UNITS TAUGHT (N)	FACULTY CONTACT HOURS/ WEEK	STUDENTS' CONTACTS WITH FACULTY/ WEEK
	1	2	3	4	5	6
Arts:						
Communication Arts	10	36	489	101	103	1,481
Economics	7	19	646	57	57	1,938
English	35	77	1,353	224	224	4,171
Fine Arts/Music	3	6	76	17	17	227
Government	16	43	756	109	109	2,249
History	23	57	775	138	138	2,292
Humanities	3	3	35	9	9	105
Interdisciplinary	3	16	212	42	42	534
Languages/Classics	12	47	451	151	151	1,554
Military Science	7	14	174	37	39	392
Philosophy	16	45	1,572	135	135	5,175
Physical Education	13	40	461	71	95	1,537
Psychology	14	44	1,116	61	75	3,352
Sociology+	21	77	1,165	215	215	3,486
Theology	20	44	896	138	138	2,694
Sub Total	203	568	10,177	1,505	1,547	31,187
Business Administration	36	83	2,193	234	242	6,380
Education	39	83	1,061	202	482	8,711
Evening College:						
Arts	75	106	1,750	319	319	5,712
Business Administration	23	29	604	83	83	1,831
Science	24	30	390	86	100	1,189
Sub Total	122	165	2,744	488	502	8,732

+ Includes Anthropology, Social Welfare and Ethnic Studies

CHART NO. 2 (Continued)

COLLEGE/SCHOOL/DEPARTMENT	FACULTY (N)	COURSES (N)	STUDENTS (N)	COURSE UNITS TAUGHT (N)	FACULTY CONTACT HOURS/ WEEK	STUDENTS' CONTACTS WITH FACULTY/ WEEK
	1	2	3	4	5	6
Law	29	54	2,901	152	152	8,872
Nursing	32	43	799	190	476	7,888
Science:						
Biology	18	92	1,773	197	308	6,181
Chemistry	15	55	1,105	74	148	3,951
Computer Science	9	62	740	84	112	1,529
Mathematics	9	37	883	96	104	2,264
Physical Science	3	3	61	9	9	191
Physics	7	24	681	45	63	1,914
Sub Total	61	273	5,243	505	744	16,030
Total University	522	1,269	25,118	3,276	4,145	87,800

CHART NO. 3: THE UNIVERSITY OF SAN FRANCISCO, BASIC MEASURES OF INSTRUCTIONAL EFFORT, UNDERGRADUATE, GRADUATE, PROFESSIONAL, FALL 1973

COLLEGE/SCHOOL/ DEPARTMENT	COURSES/ FACULTY	STUDENTS/ FACULTY	UNITS/ FACULTY	FACULTY CONTACT HOURS/ FACULTY	STUDENTS' FACULTY CONTACT PER WK/FACULTY	STUDENTS/ COURSE	UNITS/ COURSE	FACULTY CONTACT HOURS/ COURSE	STUDENTS' FACULTY CONTRACT PER WK/COURSE	STUDENTS' FACULTY CONTRACT/ FACULTY CON HOURS
	1	2	3	4	5	6	7	8	9	10
Arts:										
Communication Arts	3.6	48.9	10.1	10.3	148.1	13.6	2.8	2.9	41.1	14.4
Economics	2.7	92.3	8.1	8.1	276.9	34.0	3.0	3.0	102.0	34.0
English	2.2	38.7	6.4	6.4	119.2	17.6	2.9	2.9	54.2	18.6
Fine Arts/Music	2.0	25.3	5.7	5.7	75.7	12.7	2.8	2.8	37.8	13.4
Government	2.7	47.3	6.8	6.8	140.6	17.6	2.5	2.5	52.3	20.6
History	2.5	33.7	6.0	6.0	99.7	13.6	2.4	2.4	40.2	16.5
Humanities	1.0	11.7	3.0	3.0	35.0	11.7	3.0	3.0	35.0	11.7
Interdisciplinary	5.3	70.7	14.0	14.0	178.0	13.3	2.6	2.6	33.4	12.7
Language/Classics	3.9	37.6	12.6	12.6	129.5	9.6	3.2	3.2	33.1	10.3
Military Science	2.0	24.9	5.3	5.6	56.0	12.3	2.6	2.8	28.0	10.1
Philosophy	2.8	98.3	8.4	8.4	323.4	34.9	3.0	3.0	115.0	38.3
Physical Education	3.1	35.5	5.5	7.3	118.2	11.5	1.8	2.4	38.4	16.2
Psychology	3.1	79.7	4.4	5.4	239.4	25.4	1.4	1.7	76.2	44.7
Sociology+	3.7	55.5	10.2	10.2	166.0	15.1	2.8	2.8	45.3	16.2
Theology	2.2	44.8	6.9	6.9	134.7	20.4	3.1	3.1	61.2	19.5
Whole College	2.8	50.1	7.4	7.6	153.6	17.9	2.6	2.7	54.9	20.2
Business Administration	2.3	60.9	6.5	6.7	177.2	26.4	2.8	2.9	76.9	26.4
Education	2.1	27.2	5.2	12.4	223.4	12.8	2.4	5.8	105.0	18.1
Evening College:										
Arts	1.4	23.3	4.3	4.3	76.2	16.5	3.0	3.0	53.9	17.9

+ Includes Anthropology, Social Welfare, Ethnic Studies

CHART NO. 3 (Continued)

COLLEGE/SCHOOL/ DEPARTMENT	COURSE/ FACULTY	STUDENTS/ FACULTY	UNITS FACULTY	FACULTY CONTACT HOURS/ FACULTY	STUDENTS' FACULTY CONTACT PER WK/FACULTY	STUDENTS/ COURSE	UNITS/ COURSE	FACULTY CONTACT HOURS/ COURSE	STUDENTS' FACULTY CONTRACT PER WK/COURSE	STUDENTS'+ FACULTY CONTRACT/ FACULTY CON. HOURS
	1	2	3	4	5	6	7	8	9	10
Evening College (Cont'd)										
Business Administration	1.3	26.3	3.6	3.6	79.6	20.8	2.9	2.9	63.1	22.1
Science	1.3	16.3	3.6	4.2	49.5	13.0	2.9	3.3	39.6	11.9
Whole College	1.4	22.5	4.0	4.1	71.6	16.6	3.0	3.0	52.9	17.4
Law:	1.9	100.1	5.2	[illegible]	305.9	53.7	2.8	2.8	164.3	58.4
Nursing:	1.3	25.0	5.9	14.9	246.5	18.6	4.4	11.1	183.4	16.6
Science:										
Biology	5.1	98.5	2.1	17.1	343.4	19.3	2.1	3.3	67.2	20.1
Chemistry	3.7	73.7	1.3	9.9	263.4	20.1	1.3	2.7	71.8	26.7
Computer Science	6.9	82.2	1.4	12.4	169.9	11.9	1.4	1.8	24.7	13.7
Mathematics	4.1	98.1	2.6	11.6	251.6	23.9	2.6	2.8	61.2	21.8
Physical Science	1.0	20.3	3.0	3.0	63.7	20.3	3.0	3.0	63.7	21.2
Physics	3.4	97.3	1.9	9.0	273.4	28.4	1.9	2.6	79.8	30.4
Whole College	4.5	86.0	1.8	12.9	262.8	19.2	1.8	2.7	58.7	21.5
Total University	2.4	48.1	6.3	7.9	168.2	19.8	2.6	3.3	69.2	21.2

CHART NO. 4: THE UNIVERSITY OF SAN FRANCISCO CALCULATION OF FTE FACULTY FOR FY 1974-1975, USING FALL 1973 DATA

COLLEGE/SCHOOL BY DEPARTMENT	NUMBER OF SCH TAUGHT COURSES	NUMBER OF FACULTY CONTACT HOURS	U/H RATIO COL 1 ÷ COL 2	U/H RATIO X 600 SCH	NUMBER OF FTE FACULTY FOR FY 1974-1975
Business Administration	234	242	.967	580	21.86
Education	220	482	.456	274	23.36
Evening College	488	502	.972	583	28.13
Intersession	487	487	1.000	600	3.56
Law	152	152	1.000	600	29.28
Liberal Arts:	1505	1547	.973	584	98.02+
Communication Arts	101	103	.981	588	4.84
Economics	57	57	1.000	600	5.99
English	224	224	1.000	600	11.89
Government	109	109	1.000	600	6.86
History	138	138	1.000	600	6.77
Humanities	9	9	1.000	600	.39
Interdisciplinary	42	42	1.000	600	2.03
Language/Classics	151	151	1.000	600	4.68
Military Science	37	39	.949	569	.71
Music/Fine Arts	17	17	1.000	600	1.06
Philosophy	135	135	1.000	600	14.88
Physical Education	71	95	.747	448	6.47
Psychology	61	75	.813	488	13.00
Sociology	215	215	1.000	600	11.69
Theology	138	138	1.000	600	9.57
Nursing	190	476	.399	239	27.90
Science:	506	744	.680	408	49.72+
Biology	198	308	.643	386	18.93
Chemistry	74	148	.500	300	13.59
Computer Science	84	112	.750	450	4.70
Mathematics	96	104	.923	554	6.97
Physics	54	72	.750	450	6.50
Summer Session	816	858	.951	570	14.76
Total	4598	5490	.838	503	295.35

+ Rounding causes error in totals

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CHART NO. 5: THE UNIVERSITY OF SAN FRANCISCO AND THE DETERMINATION OF FTE FACULTY, FY 1974-1975

COLLEGE/SCHOOL BY DEPARTMENT	ACTUAL SCH		ESTIMATED SCH		FTE FACULTY		
					VARIABLE FTE FACULTY		
	FY 1972-1973	FY 1973-1974	GROSS REGRESSION FY 1974-75	BUDGET FY 1974-75	SCH/ONE FTE FACULTY	@ VARIABLE FTE FACULTY	@ 600 SCH/ FACULTY/YR
Business Administration: F, Sp	11,322	11,827	13,010*	12,677	580	21.86	21.13
Education: F, Sp	7,084	7,794	7,057*	6,400	274	23.36	10.67
Evening College: F, Sp, Su	20,660	19,408	14,817*	16,400	583	28.13	27.33
Intersession	2,117	2,024	2,145*	2,138	600	3.56	3.56
Law: F, Sp, Su	18,550	17,931	20,986*	17,566	600	29.28	29.28
Liberal Arts: F, Sp	63,534	59,196	53,245	57,245	584	98.02+	95.41
Communication Arts	2,505	2,895	2,965*	2,847	588	4.84	4.75
Economics	3,535	3,690	3,583	3,595	600	5.99	5.99
English	8,588	7,311	6,244*	7,132	600	11.89	11.89
Government	4,595	4,224	2,892*	4,117	600	6.86	6.86
History	4,867	4,143	3,291*	4,059	600	6.77	6.77
Humanities	243	273	281*	232	600	.39	.39
Interdisciplinary	1,820	1,255	1,459*	1,218	600	2.03	2.03
Languages/Classics	3,101	2,700	1,687*	2,809	600	4.68	4.68
Military Science	400	425	263*	406	569	.71	.68
Music/Fine Arts	898	652	391*	638	600	1.06	1.06
Philosophy	10,320	9,161	8,622*	8,930	600	14.88	14.88
Physical Education	2,685	2,958	3,010*	2,899	448	6.47	4.83
Psychology	6,362	6,409	6,391	6,346	488	13.00	10.58
Sociology	8,320	7,193	7,005*	7,016	600	11.69	11.69
Theology	5,385	5,907	5,156	5,740	600	9.57	9.57
Nursing: F, Sp	6,070	6,760	7,097*	6,695	240	27.90	11.16

+ Rounding causes error in totals

* $r \geq .50$

CHART NO. 5 (Continued)

COLLEGE/SCHOOL BY DEPARTMENT	ACTUAL SCH		ESTIMATED SCH		FTE FACULTY		
					VARIABLE FTE FACULTY		
	FY 1972-1973	FY 1973-1974	GROSS RE-REGRESSION FY 1974-75	BUDGET FY 1974-1975	SCH/ONE FTE FACULTY	@VARIABLE FTE FACULTY	@ 600 SCH/ FACULTY/YR
Science: F, Sp	19,562	20,232	22,217	20,284	408	49.72+	33.81
Biology	6,945	7,286	8,175*	7,308	386	18.93	12.18
Chemistry	3,935	4,069	4,649*	4,077	300	13.59	6.80
Computer Science	1,990	2,107	2,250*	2,114	450	4.70	3.52
Mathematics	4,139	3,848	4,081	3,861	554	6.97	6.44
Physics	2,553	2,922	3,062*	2,924	450	6.50	4.87
Summer Session:	8,612	8,238	7,442	8,416	570	14.76	14.03
Total	157,511	153,410	148,016	148,560	---	296.59	247.60

+ Rounding causes error in totals

* $r \geq .50$

CHART NO. 6: UNIVERSITY OF SAN FRANCISCO FACULTY SURVEY, SCHOLARSHIP/PUBLIC SERVICE ACTIVITIES, FY 1972-1973

ACADEMIC RANK	A	B	C	D	E	F	G	H	I	J	K	Total N	Total %
Professor	52	33	2	1	19	6	10	38	45	81	20	307	27.8
Associate Professor	34	16	4	1	29	25	20	53	23	61	8	274	24.8
Assistant Professor	38	16	6	4	15	6	27	28	33	77	15	265	23.9
Instructor	10	10	4	6	5	3	7	28	30	41	15	159	14.4
Lecturer	7	1	2	6	5	3	5	26	28	5	13	101	9.1
Total	141	76	18	18	73	43	69	173	159	265	71	1106	100
Proportional Distribution	12.7	6.9	1.6	1.6	6.6	3.9	6.2	15.6	14.4	24.0	6.5	100	

Calculated Chi-square = 162.90

Chi-square (40 df, .01) = 66.77

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